

Unified Lower Eagle River Chain of Lakes Commission

Eagle River Chain of Lakes EWM Management Project *Informational Meeting*

November 11, 2020



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Lake Management Planning

Unified Lower Eagle River Chain of Lakes
Commission 

Presentation Outline

- Project Overview
- EWM Population in the ERC
 - Lake-Specific Survey Results
 - Chain-Wide Survey Results
- Eurasian Watermilfoil Management 101
 - Hand-Harvesting
 - Herbicide Spot Treatment
- 2021 Strategy Development Discussion
 - Evolved Management Perspective
- Concluding Comments

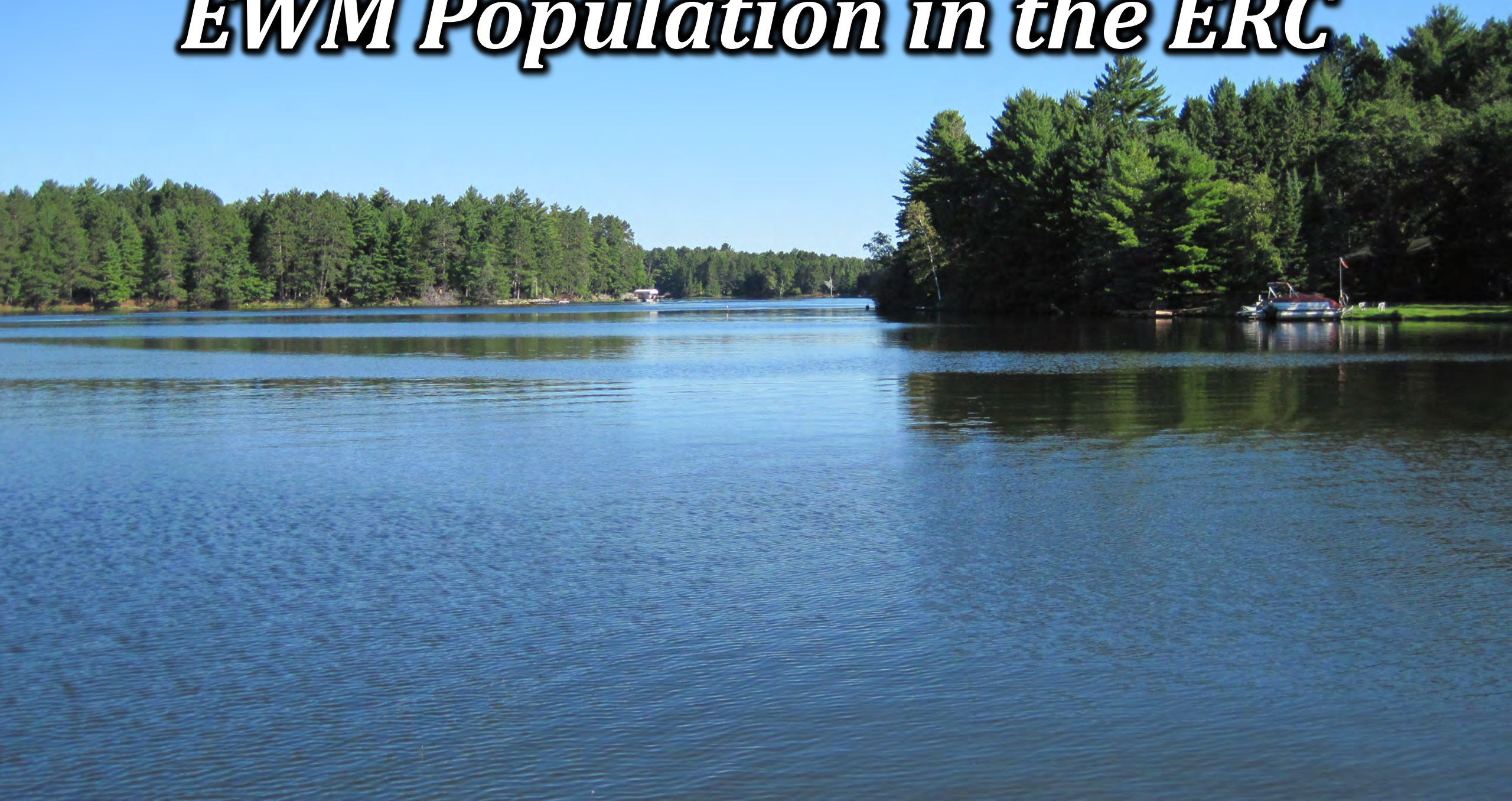


Project Overview

- Coordinated EWM monitoring & management
 - 2008-current w/ Onterra (8 WDNR Grants)
 - ULERCLC-sponsored
 - Involvement with WDNR/USACE research
- Comprehensive Management Plan (Dec 2019)
 - ERCLA-sponsored
 - 4 phases/WDNR grants
- February 2020 WDNR AIS Grant Award (65%)
 - 3-years of monitoring & hand-harvesting (2020-2022)
 - Chain-wide point-intercept surveys (2022, 5yr interval)



EWM Population in the ERC



Professional AIS Mapping



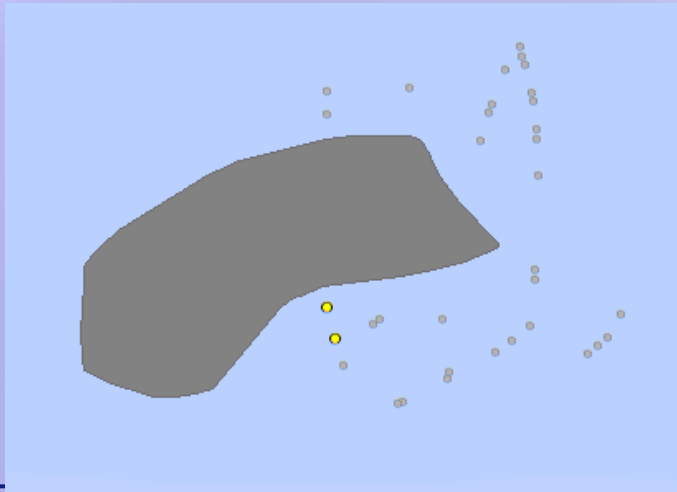
Point-Based Mapping

- Single or Few Plants
- Clumps of Plants
- Small Plant Colony



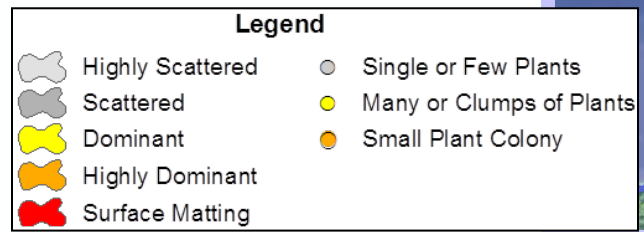
Polygon-Based Mapping

- Highly Scattered
- Scattered
- Dominant
- Highly Dominant
- Surface Matting



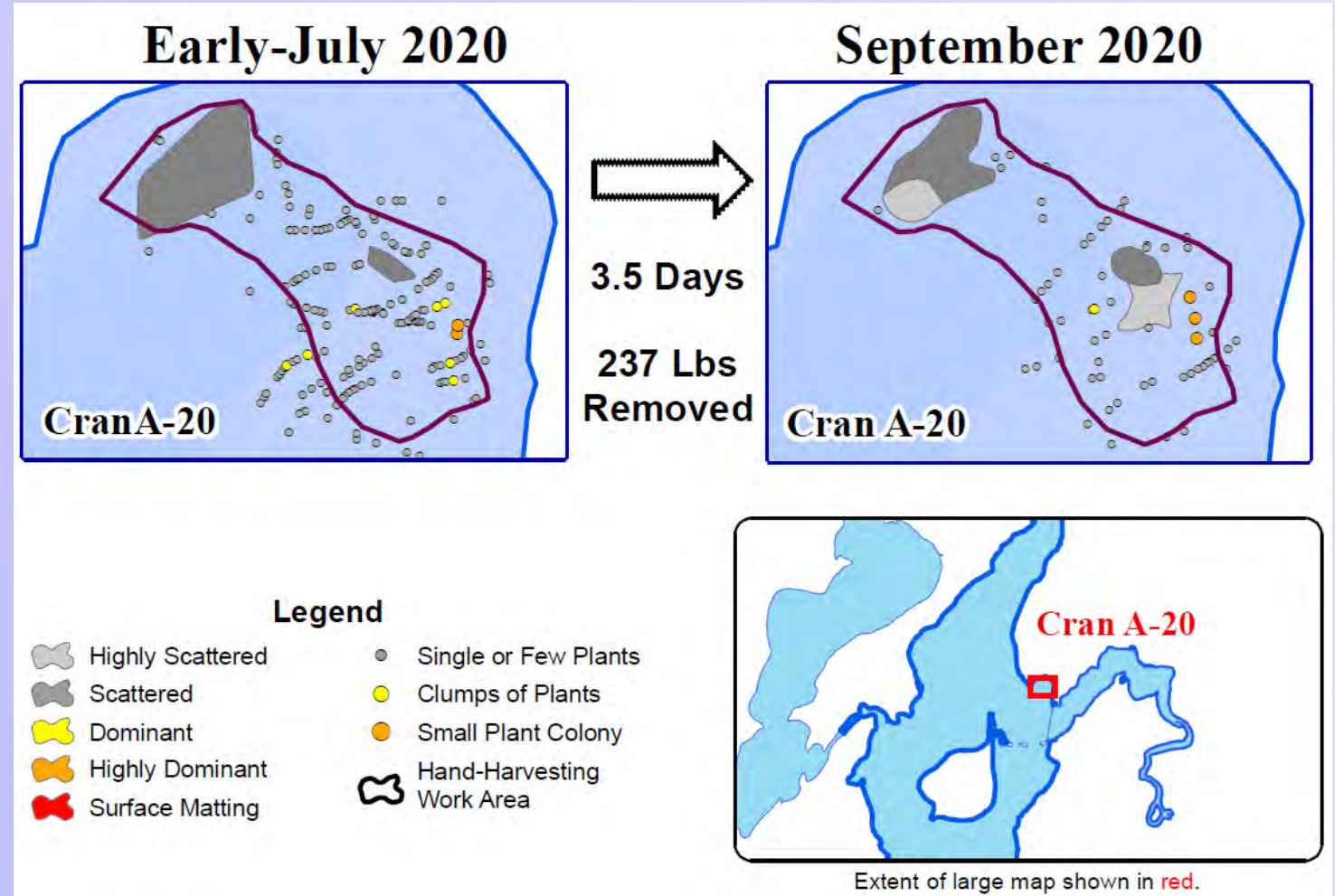
Cranberry

Late-Summer 2019



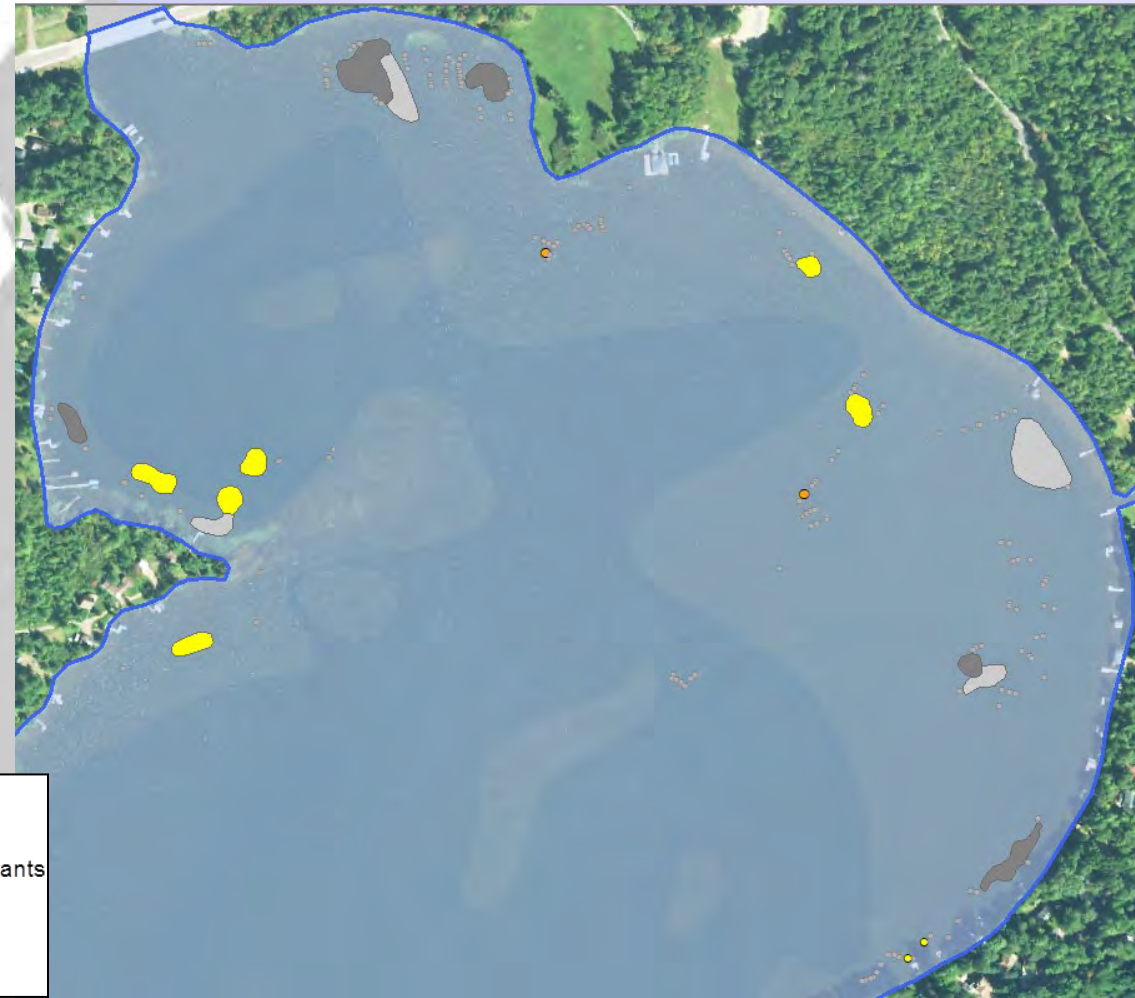
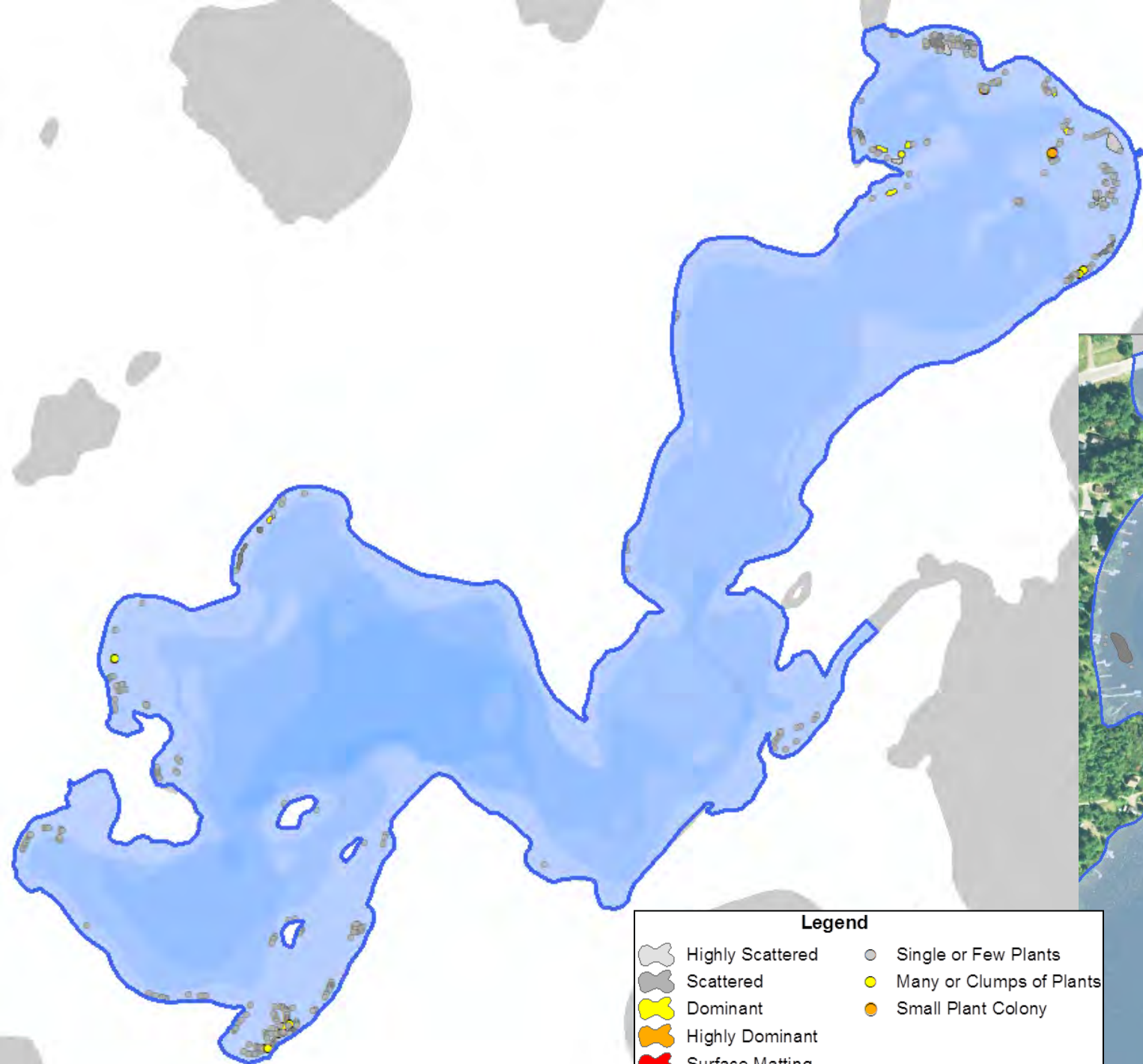
Cranberry 2020 Hand-Harvesting

- Cran A-20: Held to approximately same level of EWM











Catfish

Late-Summer 2020

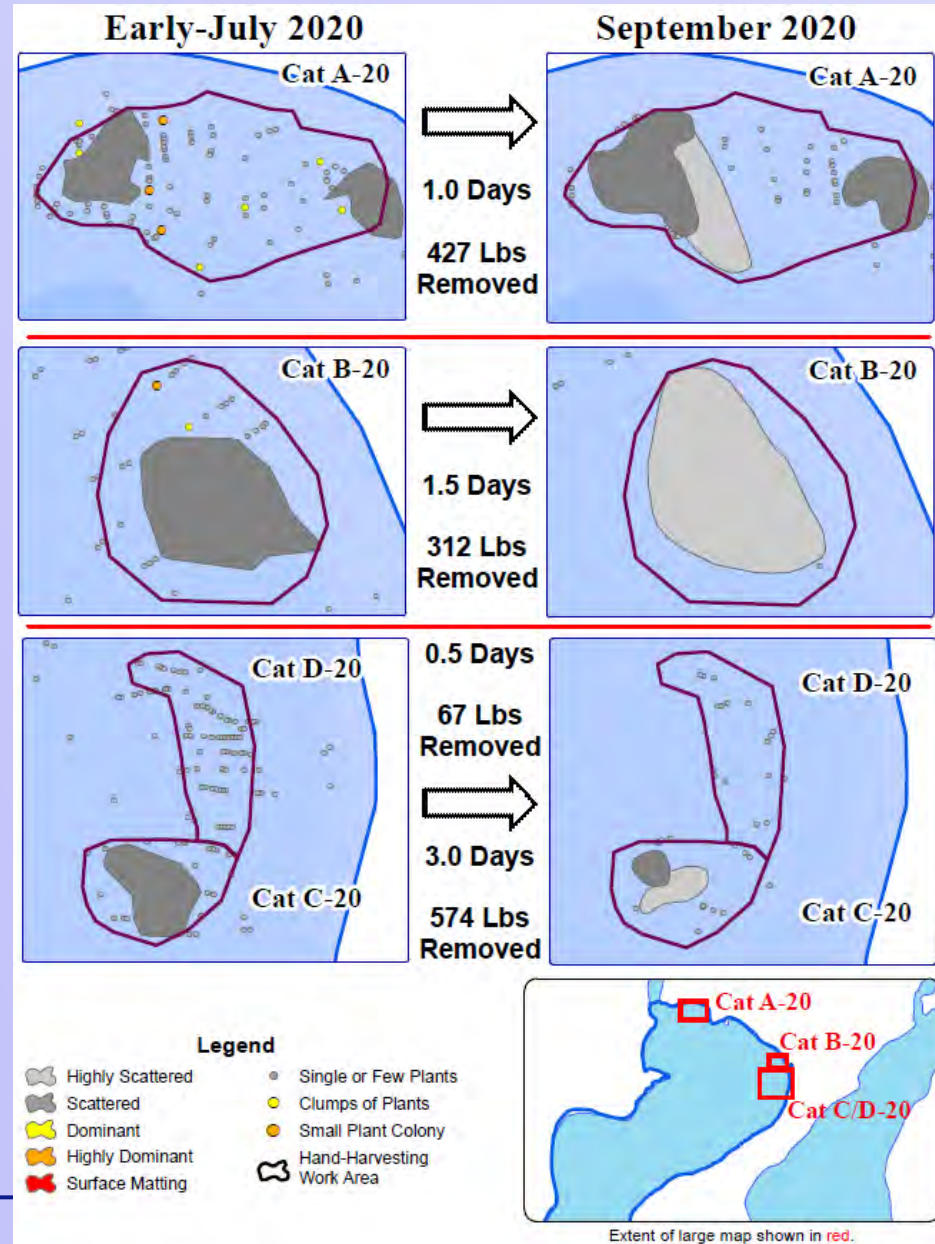


Legend

- | | | | |
|---|------------------|---|--------------------------|
|  | Highly Scattered |  | Single or Few Plants |
|  | Scattered |  | Many or Clumps of Plants |
|  | Dominant |  | Small Plant Colony |
|  | Highly Dominant | | |
|  | Surface Matting | | |

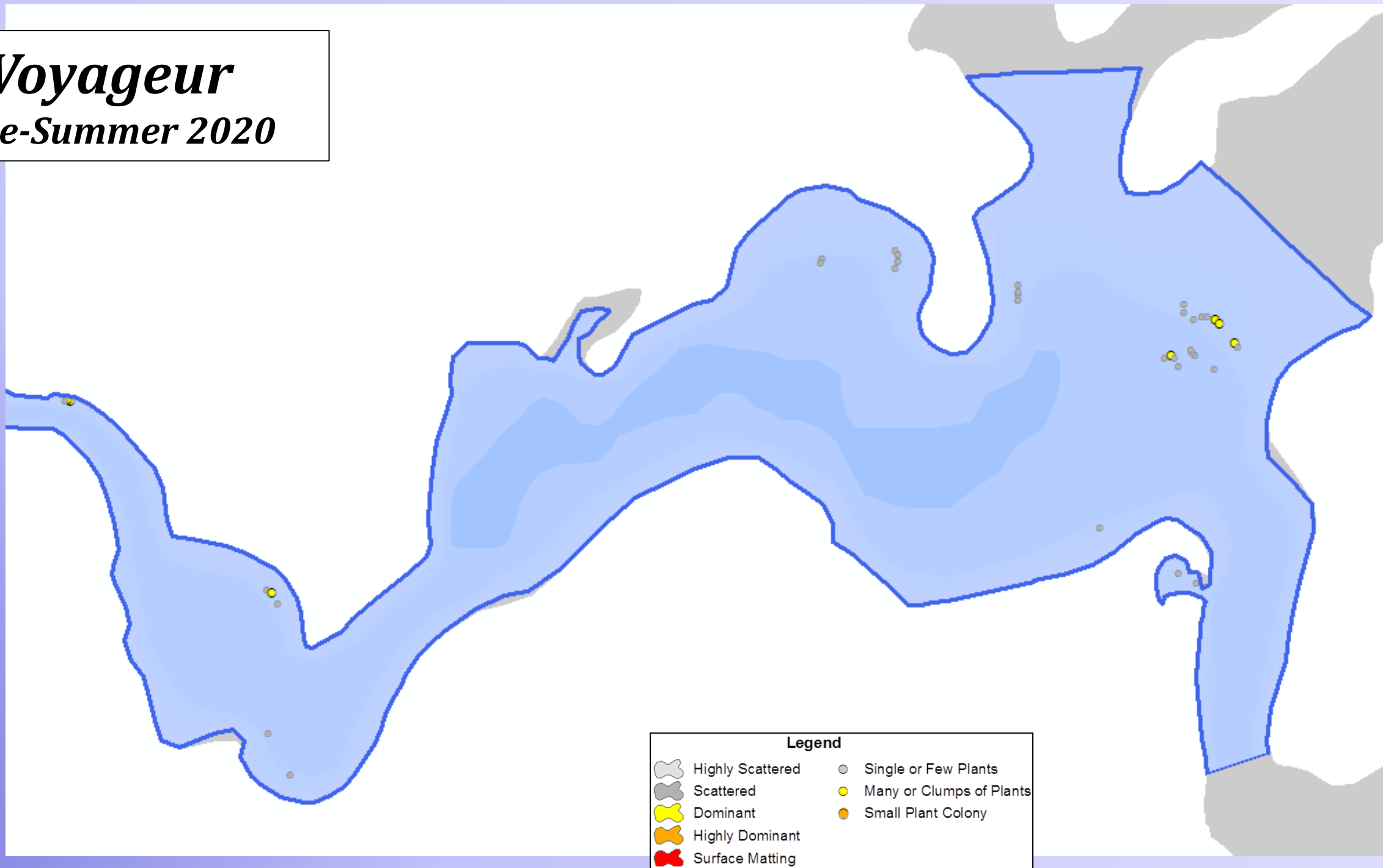
Catfish 2020 Hand-Harvesting

- Cat A-20: Held to approximately same level of EWM
- Cat B-20: Same footprint, reduced density
- Cat C-20: Removal of many *singles*
- Cat D-20: Reduced density & footprint



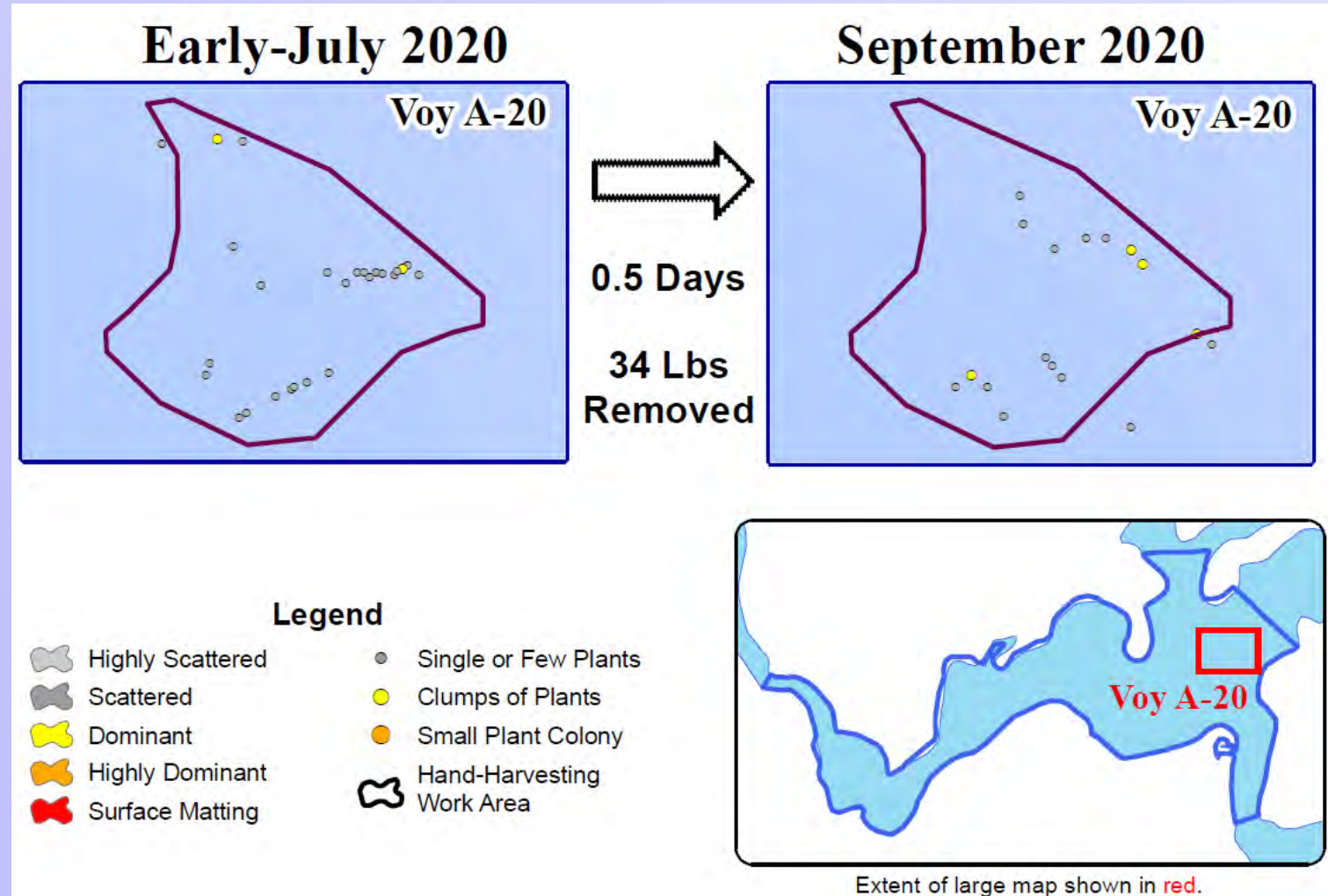
Voyageur

Late-Summer 2020



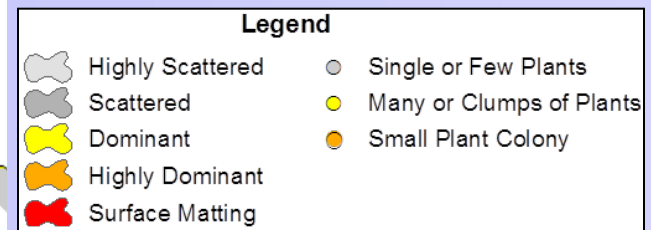
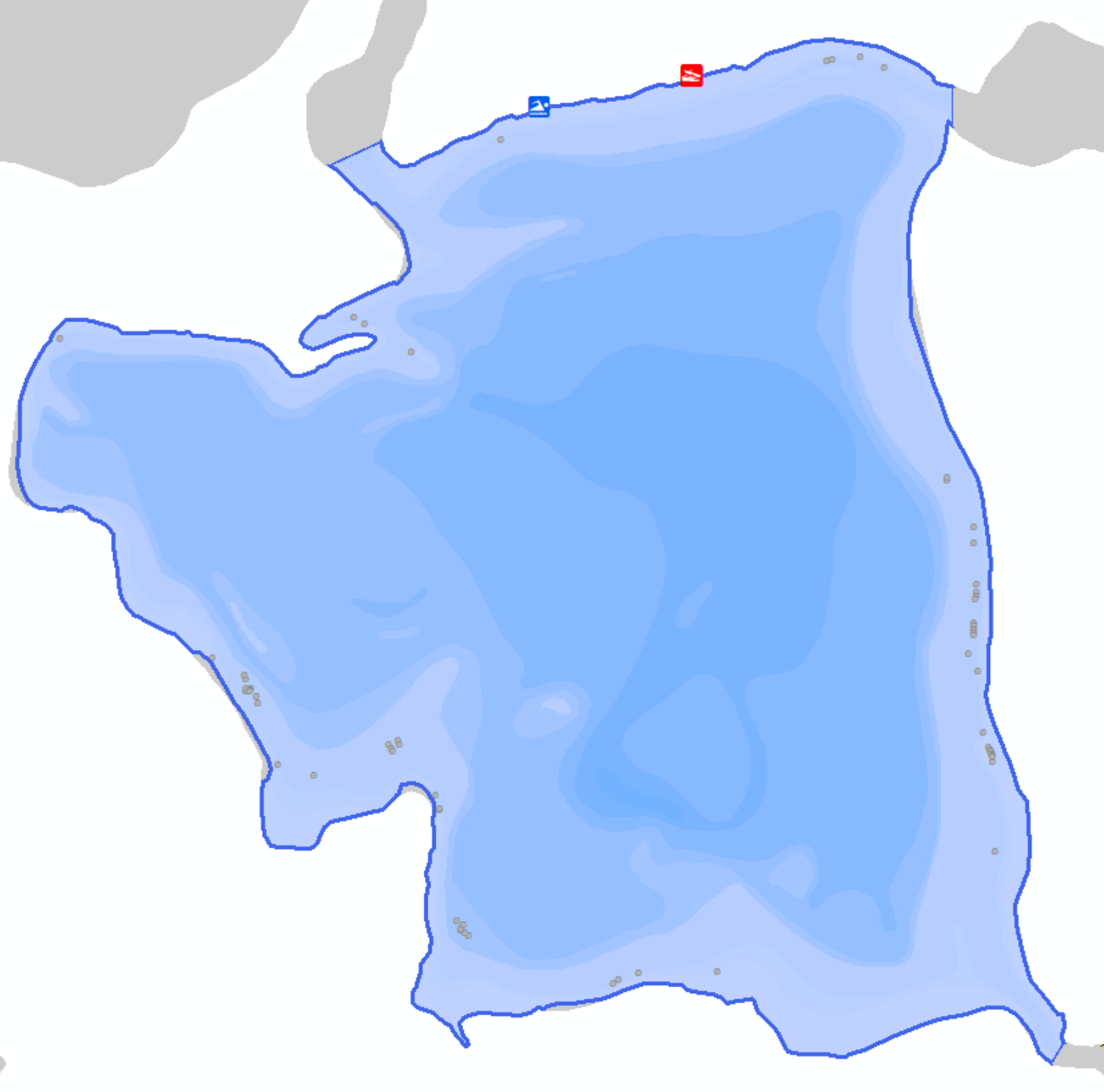
Voyageur 2020 Hand-Harvesting

- Voy A-20: Held to approximately same level of EWM



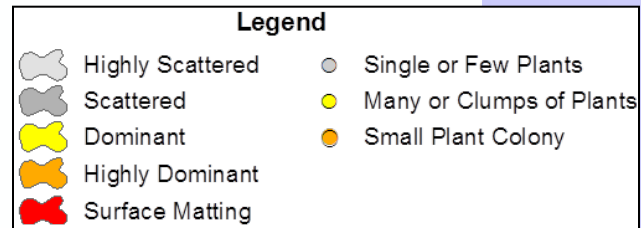
Eagle

Late-Summer 2020



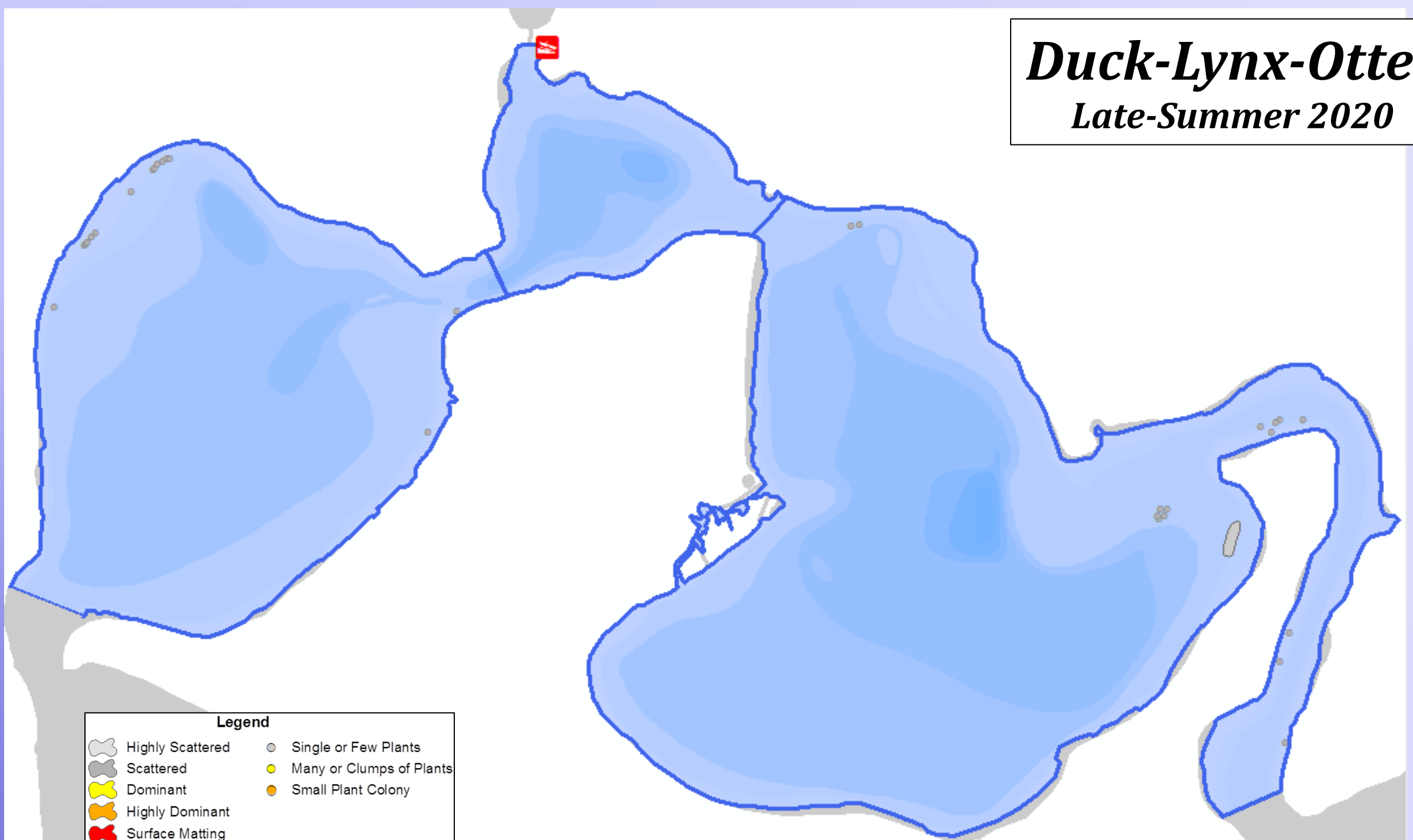
Scattering Rice

Late-Summer 2020



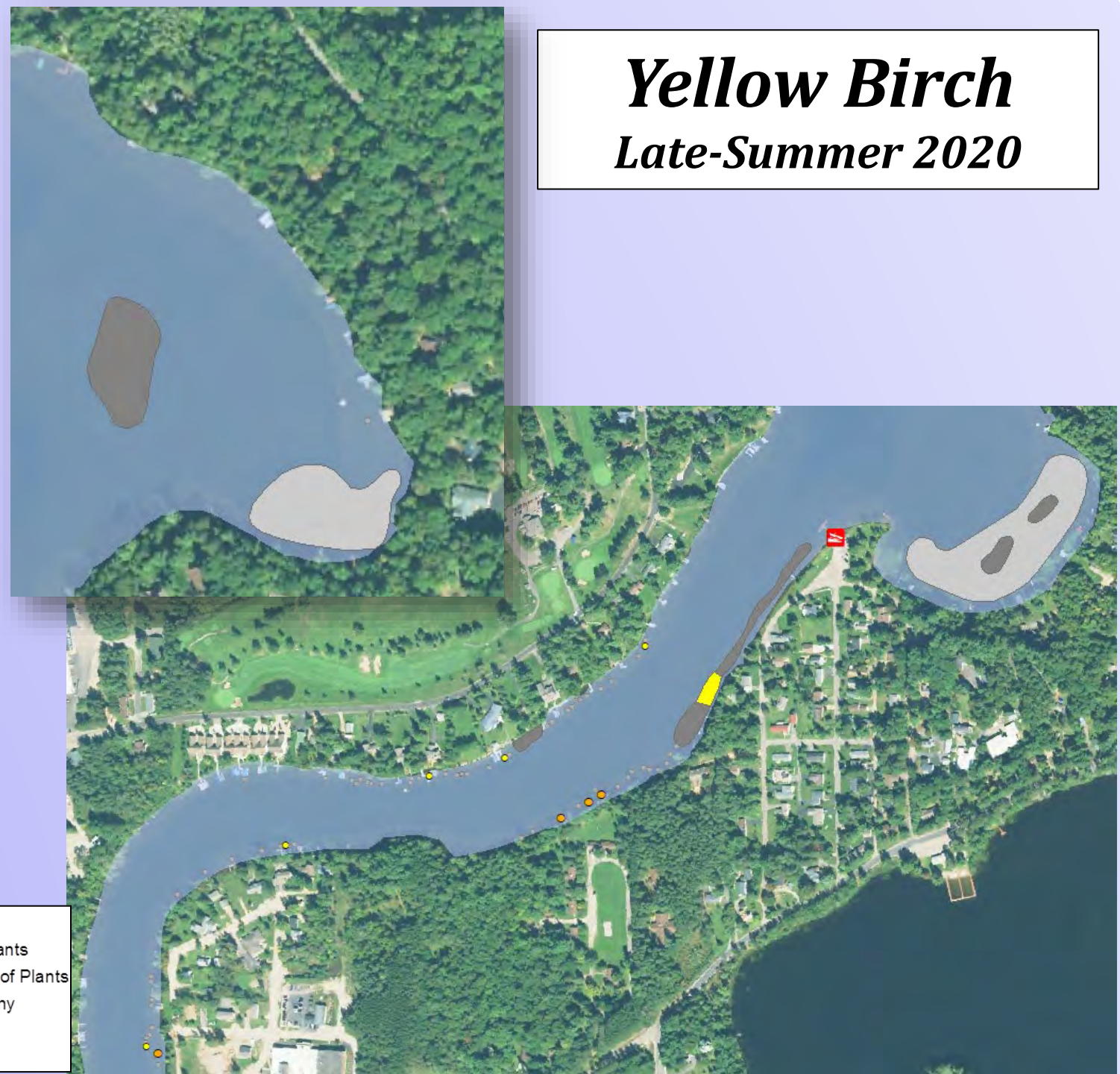
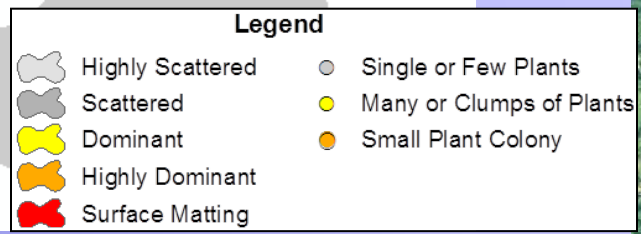
Duck-Lynx-Otter

Late-Summer 2020



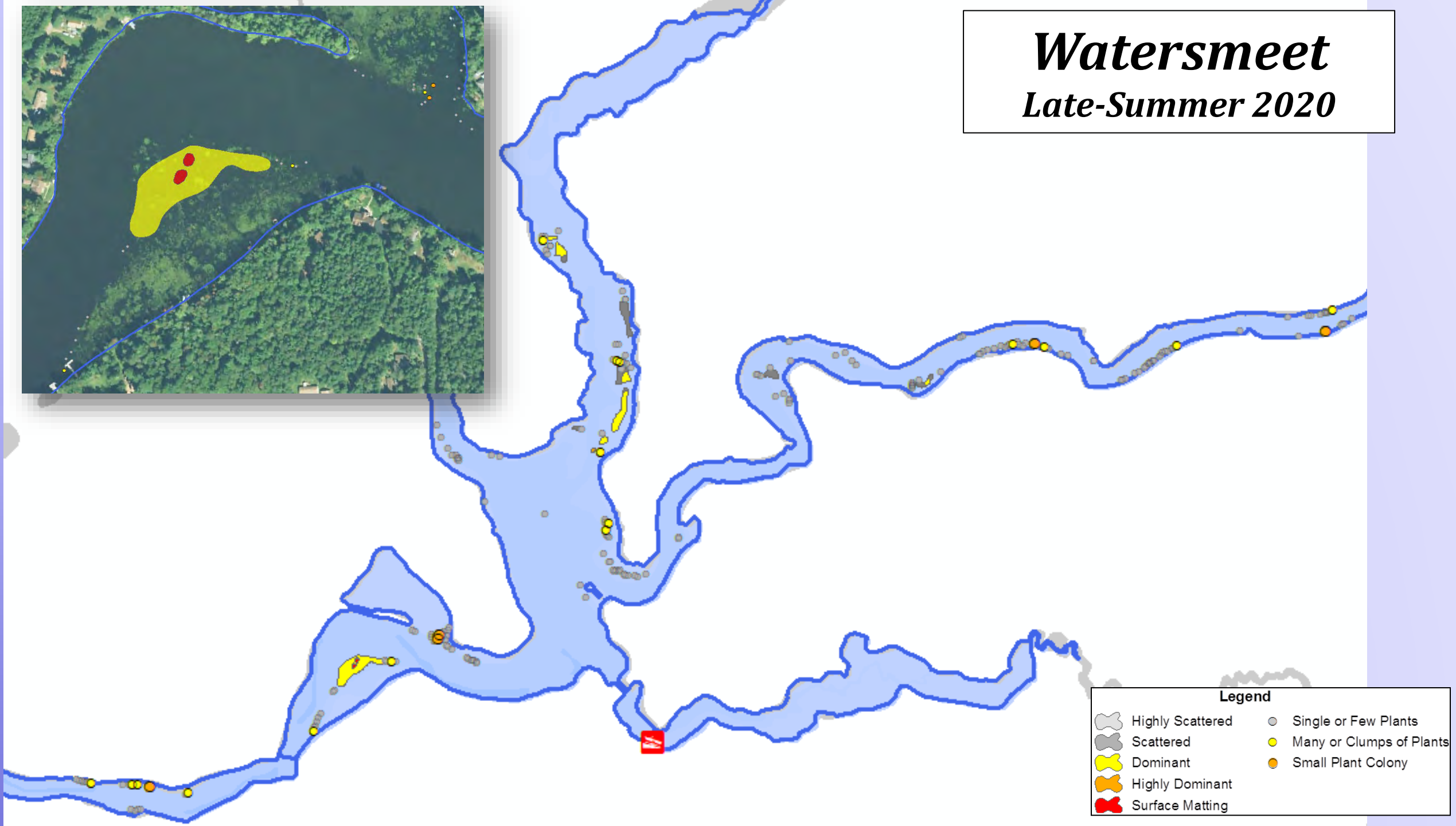
Yellow Birch

Late-Summer 2020



Watersmeet

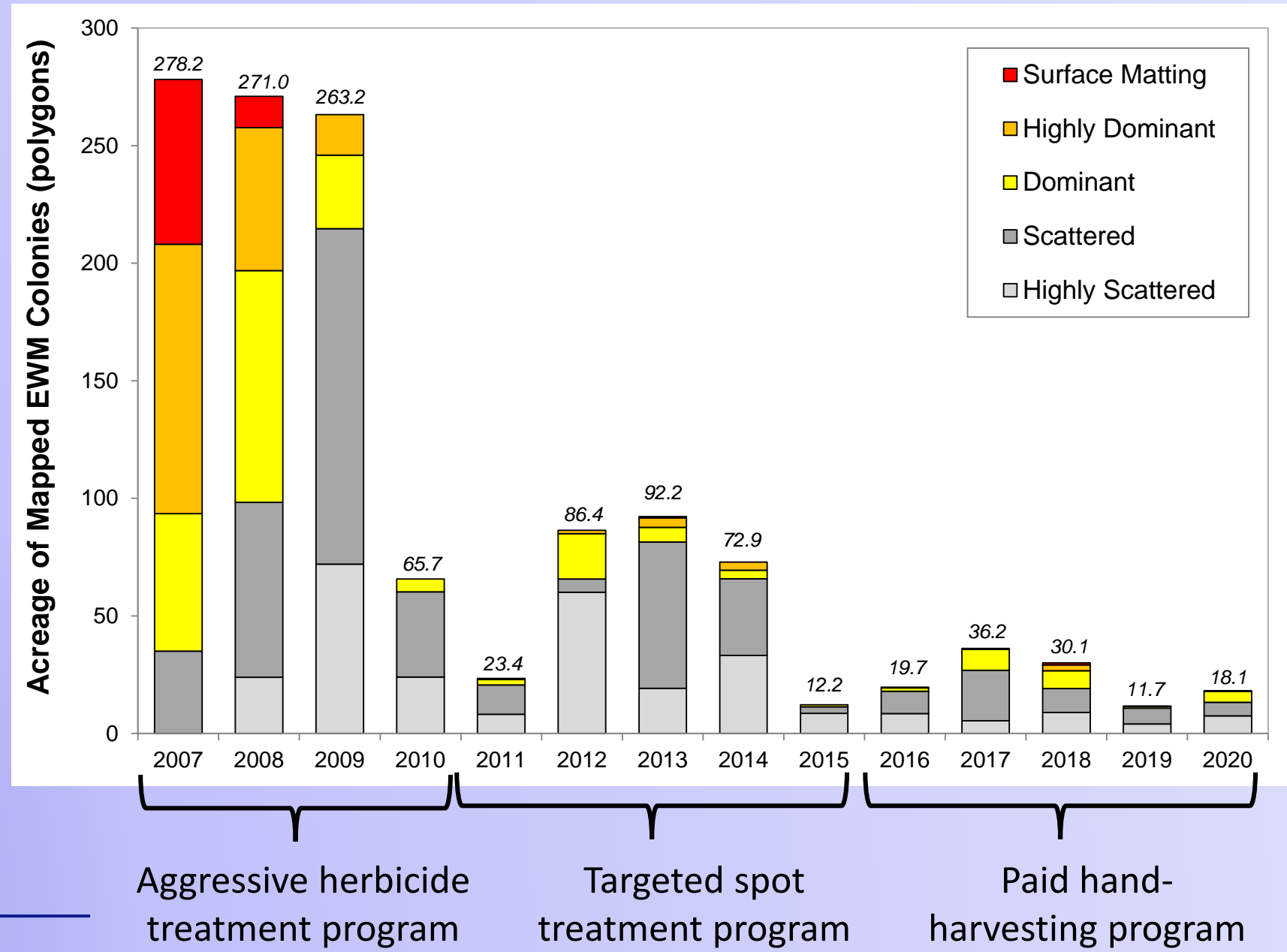
Late-Summer 2020



Chain-Wide Results

EWM populations is currently low

1. Result of management

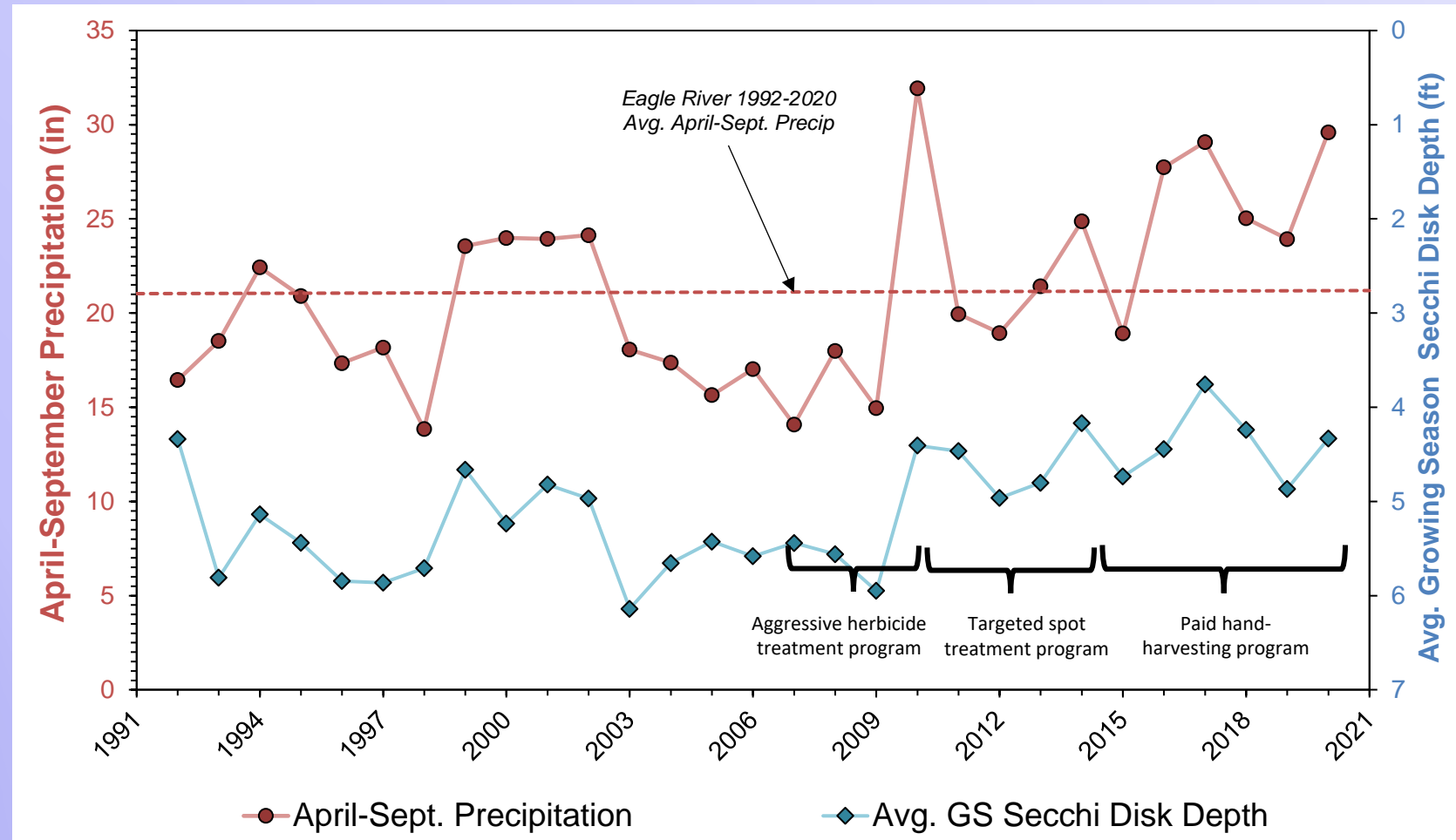


Chain-Wide Results

EWM populations is currently low

1. Result of management
2. Reduced water clarity

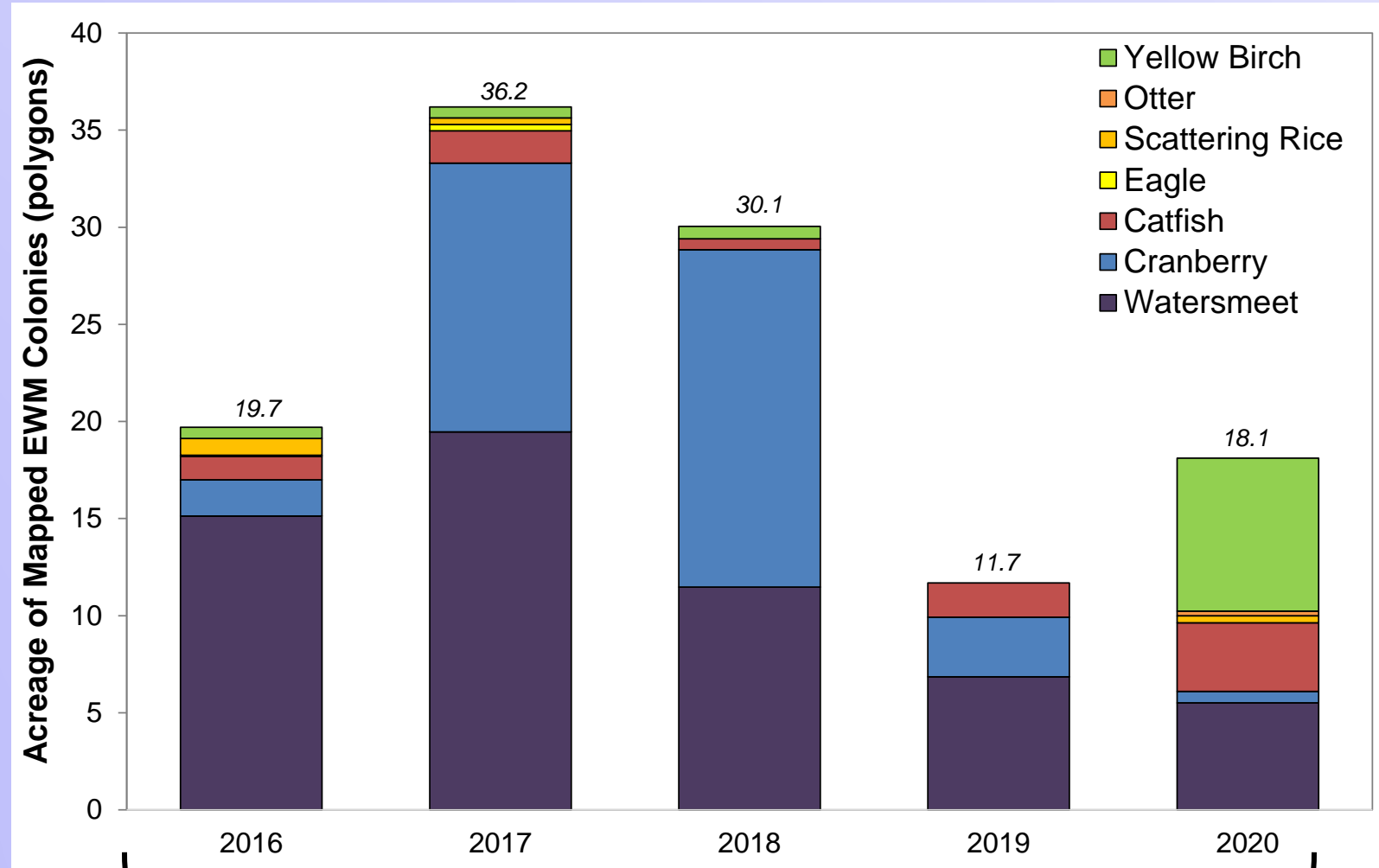
Increased environmental stress from low water clarity results in management being more effective and population rebound more difficult



Chain-Wide Results

Since Herbicide Management Ceased

- Cranberry Channel spring 2015 treatment
- Professional hand-harvesting program
 - 2016: Voyageur
 - 2017: Voy, ScatRice, Wat
 - 2018: YBL, ScatRice, Wat
 - 2019: ScatRice, YBL, Wat
 - 2020: Cran, Cat, Voy



Paid hand-harvesting program

Eurasian Watermilfoil Management 101

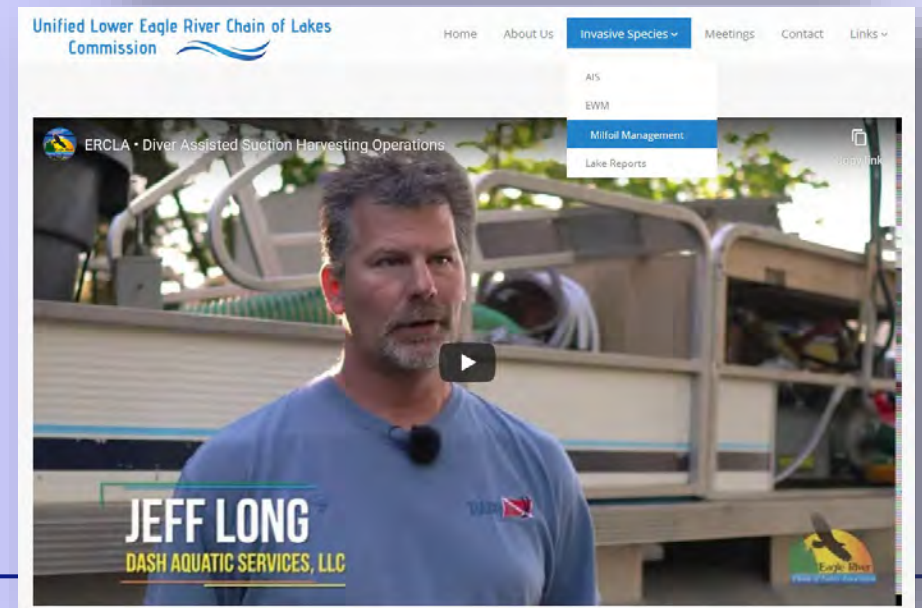


Best Management Practices (BMPs)

- **A “placeholder” term to represent the management option that is currently supported by that latest science and policy**
- **Definition evolves over time**
 - Pre 2010 - small spot treatments with granular 2,4-D
 - Early 2010s - larger spot treatments with liquid 2,4-D
 - Mid 2010s – whole-lake treatments, spot treatments with herbicide combos, hand-harvesting/DASH
 - Current– nuisance maintenance vs population management, mechanical harvesting, increasing human tolerance, new herbicides

Hand-Harvesting of EWM

- Removal of entire root material required to reduce rebound
- Scale limitations, not for large or dense areas
- Diver-Assisted Suction Harvest (DASH) can increase efficacy
- Limitations
 - Density of EWM & native plants
 - Clarity of water
 - Sediment type
 - Obstructions



Spot Treatment Guidance

- **Factors that lead to longer exposure time**
 - Larger size (working definition: > 10 acres per site)
 - Broader shape (hold concentrations in core of treatment area)
 - Protected location (limit dissipation direction)
 - Stagnant waters (flow increases dissipation)
- **New Management Directions**
 - Alternative herbicides (ProcellaCOR™, herbicide combos)
 - Modify conditions (dam operations, barrier curtains)



Florpyrauxifen-benzyl - ProcellaCOR™

- **New class of synthetic auxin mimic herbicides**
- **Short concentration and exposure time (CET) requirements compared to other systemic herbicides**
 - 2x shorter uptake rates
- **Viewed as a favorable environmental toxicological profile**
 - Limited field trials suggests high level of EWM control with high level of native plant selectivity, with dicots (particularly watermilfoils) being most impacted
 - EPA risk assessment (highlighted list below)
 - Non-target wildlife & human health - “no risk concern” category
 - Bees, birds, reptiles, amphibians, & mammals - “practically non-toxic” category
 - Does not bioaccumulate
 - No restrictions on swimming, drinking, fish consumption
 - 1-day irrigation restriction due to herbicidal properties

2021 Preliminary Management Strategy



Evolved Management Strategy

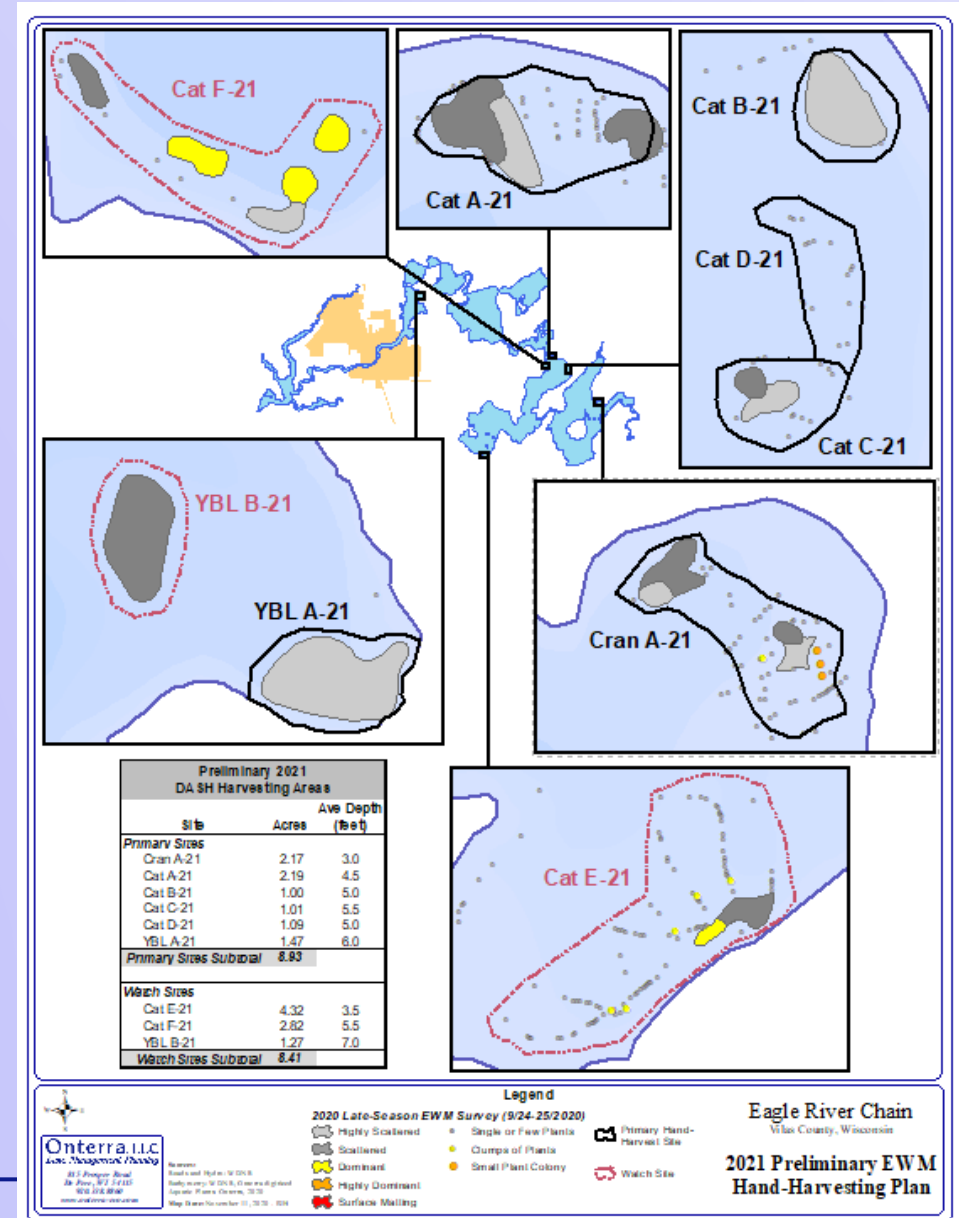
- **EWM populations have been greatly reduced**
 - Remnant areas too small to effectively controlled using herbicides
 - Most colonies below levels that cause ecological impacts or cause impacts to navigation or recreation
 - Herbicide Treatment Trigger:

colonized EWM of *dominant* or greater density, with preference to high-use areas, that have a high likelihood of the treatment being effective (factors discussed in “Spot Treatment Guidance”)

 - ✓ No areas met this threshold since 2014 (spring 2015 treatment)
- **Maintain positive strides**
 - Need to balance a level of EWM population tolerance while not allowing population to return to pre-management levels

2021 Preliminary Hand-Harvesting Plan

- Primary Strategy (8.93 acres)
 - Follow-up on 2020 Cranberry & Catfish sites (Cran A-21, Cat A,B,C,D-21)
 - Area in NE Yellow Birch
- Watch Sites (8.41 acres)
 - Dependent on HH progress & ESAIS Survey results
 - *Dominant* areas in NW Catfish
 - SE Catfish
 - Offshore *scattered* colony in YBL
- Educate and encourage riparians on legal EWM removal



ERC Project Conclusions

- **Overall, significant reduction of EWM since start of the program**
 - Maintaining low EWM population is going to be difficult, particular if/when water clarity returns to normal
- **No Herbicide Treatment Proposed AGAIN for 2021**
 - Will be 6 consecutive years without herbicide management
- **Conduct Professional-Based Hand-Harvesting in 2021**
 - Based on the ESAIS Survey (early July), the strategy will be finalized
 - Aim for earlier implementation if possible
- **Important to Continue to Improve the ERC**
 - Work on implementing protection & enhancement goals outlined in *Plan*
 - Navigate additional science, changing technologies, and regulatory environment

Thank You

Onterra, LLC

Lake Management Planning

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